

ABSTRACT

A substrate (101) subjected to a plasma process is placed on a first electrode (102). A magnetic field is
5 applied to a surface of the substrate to which the plasma process is applied by magnetic field applying means (103). An auxiliary electrode (104) is provided on an outer periphery of the first electrode (102) to excite plasma on a back surface (105) thereof. Electrons in the plasma are
10 caused to drift from a front surface (106) to a back surface (105) of the auxiliary electrode (104) and from the back surface (105) to the front surface (106) of the auxiliary electrode (104).